



Public Health
England

Protecting and improving the nation's health

Analytical uses of patient data

National Cancer Registration and Analysis Service (NCRAS)



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National Lung Cancer Audit now uses **COSD** data



Apples and pears? A comparison of two sources of national lung cancer audit data in England

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ABSTRACT In 2014, the method of data collection from NHS trusts in England for the National Lung Cancer Audit (NLCA) was changed from a bespoke dataset called LUCADA (Lung Cancer Data). Under the new contract, data are submitted via the Cancer Outcome and Service Dataset (COSD) system and compared with LUCADA data. The aim of this study was to assess the completeness of COSD data.

Registry dataset coupled with external-beam radiotherapy dataset than LUCADA"

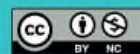
For patients treated at the registry centres, coverage rates of treatment by surgery, chemotherapy and external-beam radiotherapy were high between datasets, the new COSD system identified more instances of active treatment.

There seems to be a high agreement of data between the datasets, and the findings suggest that the registry dataset coupled with COSD provides a richer dataset than LUCADA. However, it lagged behind LUCADA in performance status recording, which needs to improve over time.

 @ERSpublications

New lung cancer data submission method provides a richer dataset <http://ow.ly/zE5r30ceaUU>

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ERS EUROPEAN
RESPIRATORY
SOCIETY
every breath counts

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Benchmarking & routine monitoring

Range of tools available in the (semi-)public domain :

- Public Health Profiles (including GP profiles) – all on Fingertips
- Longer Lives
- CancerStats (N3 network & login required)
- CancerData (publically available)
- NCRAS website
 - Topic and site specific reports/briefings
 - Guidance from ODR on obtaining data access
- Simulacrum – coming soon!

Public Health Profiles (Fingertips)

Cancer Services

Demographics, Screening and Diagnostics

Two-Week Wait Referrals

Overview Compare indicators Map Trends **Compare areas** Area profiles Definitions Download

Area type GP

Benchmark England

Area P84009 - Ailsa Craig Medic

CCG Central Manchester

[Search not available](#)

Indicator Two-week wait referrals for suspected breast cancer (Number per 100,000)

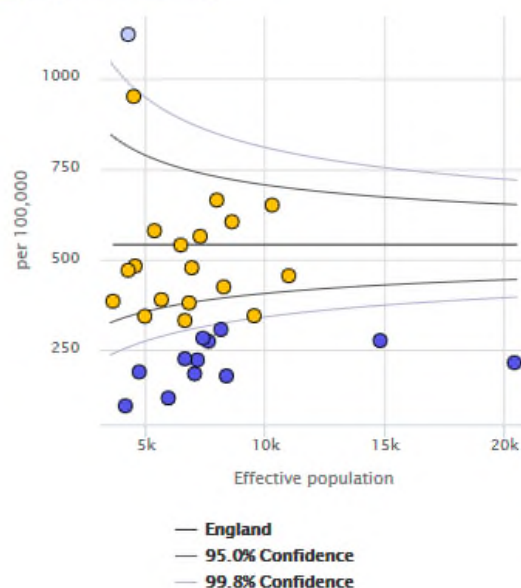
Compared with benchmark Lower Similar Higher Not compared

Two-week wait referrals for suspected breast cancer (Number per 100,000 population)

2015/16

Crude rate - per 100,000

 Export chart as image



 Export table as image

Area	Value	Lower CI	Upper CI
England	541	539	543
NHS Central Manchester CCG	390	365	416
P84009 - Ailsa Craig Me...	345	237	484
P84053 - Ashcroft Surge...	664	497	869
P84038 - Ashville Surge...	604	451	792
P84068 - Chorlton Famil...	650	504	826
P84652 - Corkland Road...	283	175	433
P84669 - Cornbrook Medi...	455	338	600
P84026 - Dickenson Road...	226	127	373
P84611 - Dr Chiu, Koh a...	118	47	243
P84037 - Dr Cunningham...	380	248	557
P84028 - Gorton Medical...	424	296	590
Y02890 - Hawthorn Mc	343	200	550
P84016 - Levenshulme Me...	564	405	765
P84689 - Longsight Medi...	190	87	360
P84616 - Manchester Med...	477	328	670
P84050 - Mount Road Sur...	274	170	420
Y02960 - New Bank Healt...	580	394	823
P84676 - Oswald Road Me...	1,121	827	1,487
P84644 - Parkside Surge...	470	287	726

CancerData



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The current Dashboard is phase 1 of this work. See the **background** tab below for more details.

Reporting level

Provider

Reporting geography

Bradford Teaching Hospitals NHS Foundation Trust

Tumour type

All Tumours

Ambition/standard



Show Alliance



Key: Compared* to England Average:

Overview

Trends

Definitions

Background

✓ better

✗ worse

similar

--- no comparison made

▼ Patient experience

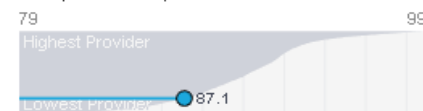
Overall experience of care 2015

Average score (scale from 0 to 10)



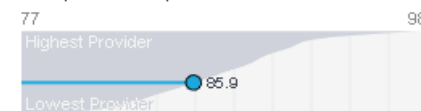
Provision of information: given name of CNS 2015

% of positive responses



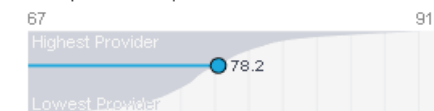
Provision of information: easy to contact CNS 2015

% of positive responses



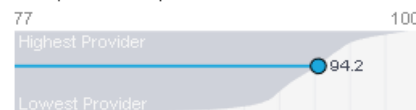
Involvement in decisions: care and treatment 2015

% of positive responses



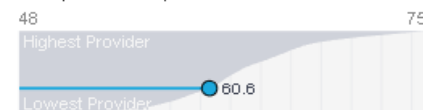
Care transition: given contact after patient left hospital 2015

% of positive responses



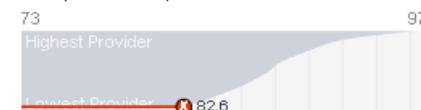
Care transition: support from GP during treatment 2015

% of positive responses



Overall interpersonal relations, respect and dignity 2015

% of positive responses





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Campaigns

PHE's cancer campaigns are those branded **Be Clear on Cancer**

- Led by Public Health England working in partnership with Department of Health, NHS England and Cancer Research UK
- Decisions are based on patient data to establish populations who may benefit the most and target advertising efficiently.
- Campaigns are evaluated using patient data to establish the effectiveness of the advertising
- Even a small change in the way data is recorded may affect the significance of results studied

Dr Jane Scott

**Tell your
doctor**

**Heartburn most
days for three
weeks or more?
Tell your doctor.**

**BE CLEAR
ON CANCER**

Joan Brown, 81,
cancer survivor

**1 in 3 women who get
breast cancer are over
70, so don't assume
you're past it.**

Despite what people think, older women are more at risk and your chances actually increase with age. Anything unusual like a lump, a change to your nipples, skin or the shape of your breasts could be a sign of breast cancer, so tell your doctor straight away. Finding it early makes it more treatable and could save your life.

**BE CLEAR
ON CANCER**

nhs.uk/breastcancer70

Dr Frank Chinegwundoh MBE

**1 in 4 black
men will get
prostate cancer.**

Prostate cancer often has no obvious symptoms. If you are a black man over 45 and want to discuss your personal risk of prostate cancer, visit your doctor.

**BE CLEAR
ON CANCER**

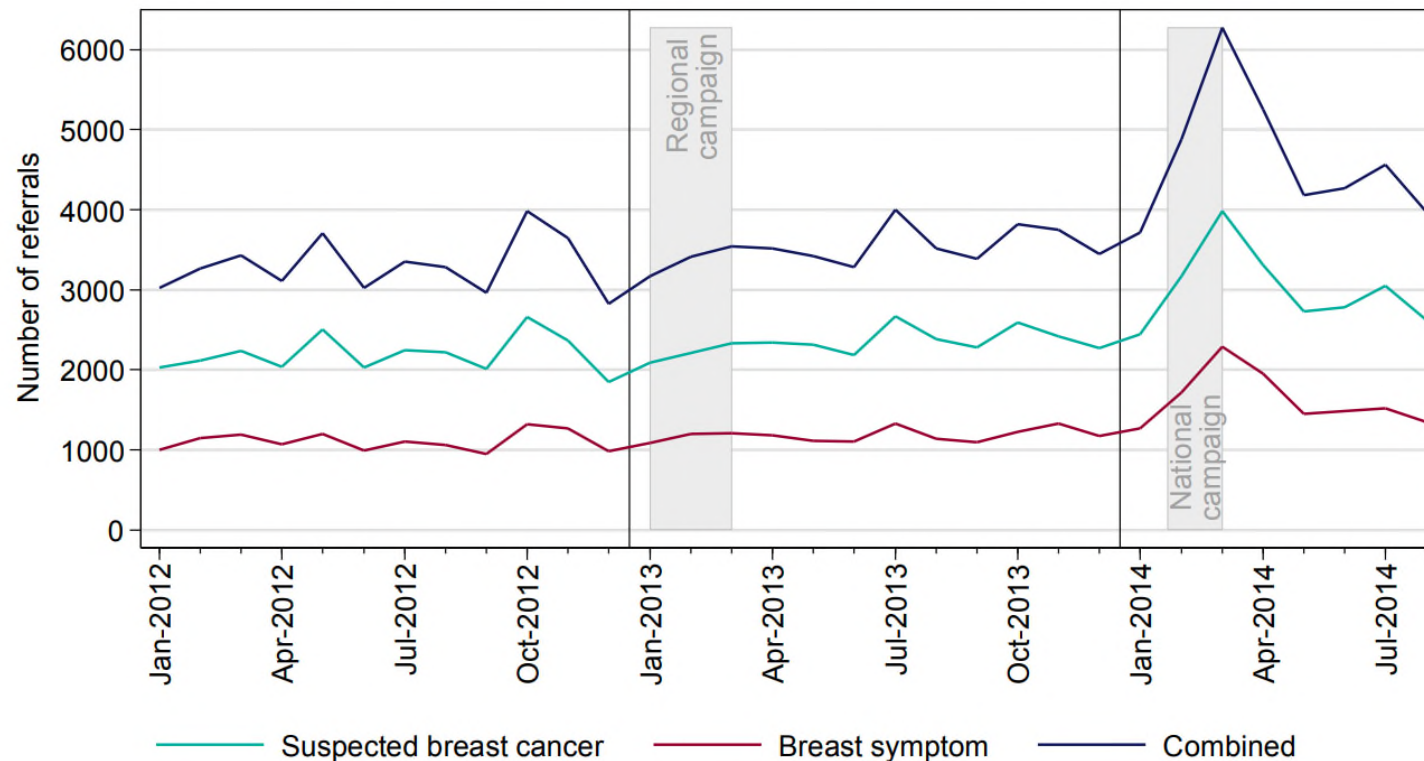
nhs.uk/prostate



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Campaigns

Figure 1: Monthly number of urgent GP referrals for suspected breast cancer, breast symptom referrals and combined, from January 2012- August 2014, England, women aged 70+



The breast cancer awareness national campaign appears to have been successful in terms of raising public awareness of breast cancer in women over 70.



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International review

International Cancer Benchmarking Partnership (ICBP):

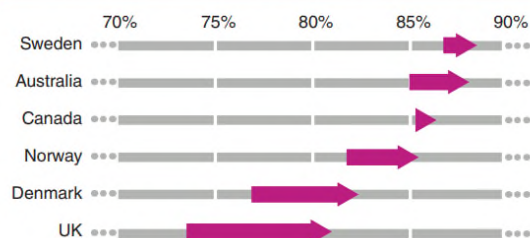
- Spans across 22 jurisdictions, 8 countries and 3 continents.
- Phase 1 = Four cancers (breast, colorectal, lung, ovary)
- Five modules of study (3 complete):
 - International cancer survival benchmark
 - Examining public awareness, beliefs and attitudes to cancer
 - Role of primary care doctors and health systems in diagnosis
 - *Measuring time intervals and pathways from symptoms to diagnosis and treatment*
 - *Impact of registry processes and comorbidities on short term outcomes*

Without high quality data we cannot make valid inferences about differences in cancer outcomes between these geographies.

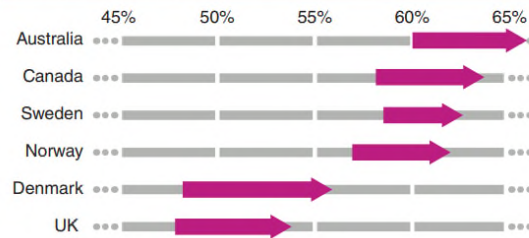
http://www.cancerresearchuk.org/sites/default/files/icbp_showcase_report_web.pdf

5-year age-standardised relative survival

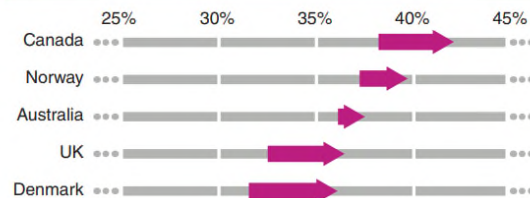
Breast cancer 5-year survival changes, 1995-1999 to 2005-2007



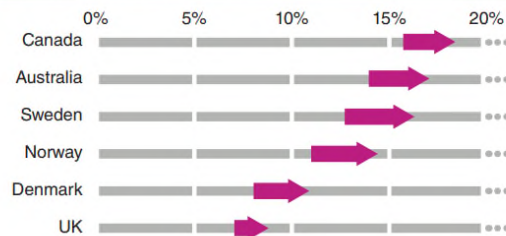
Colorectal cancer 5-year survival changes, 1995-1999 to 2005-2007



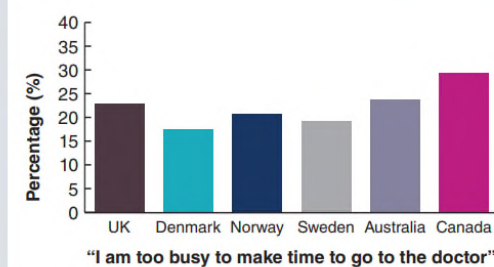
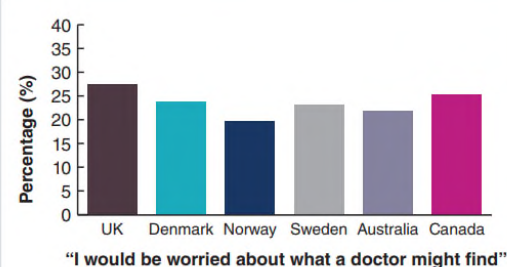
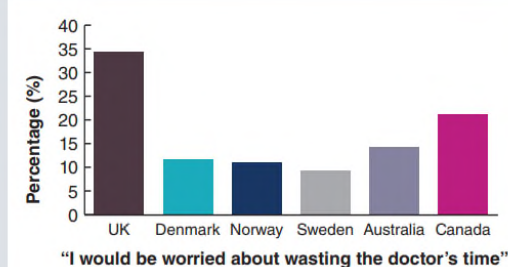
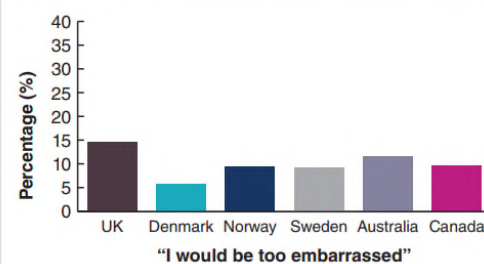
Ovarian cancer 5-year survival changes, 1995-1999 to 2005-2007



Lung cancer 5-year survival changes, 1995-1999 to 2005-2007



Barriers to symptomatic presentation: "Would any of these put you off going to the doctor with a symptom that might be serious?"





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International review

The ICBP has led to:

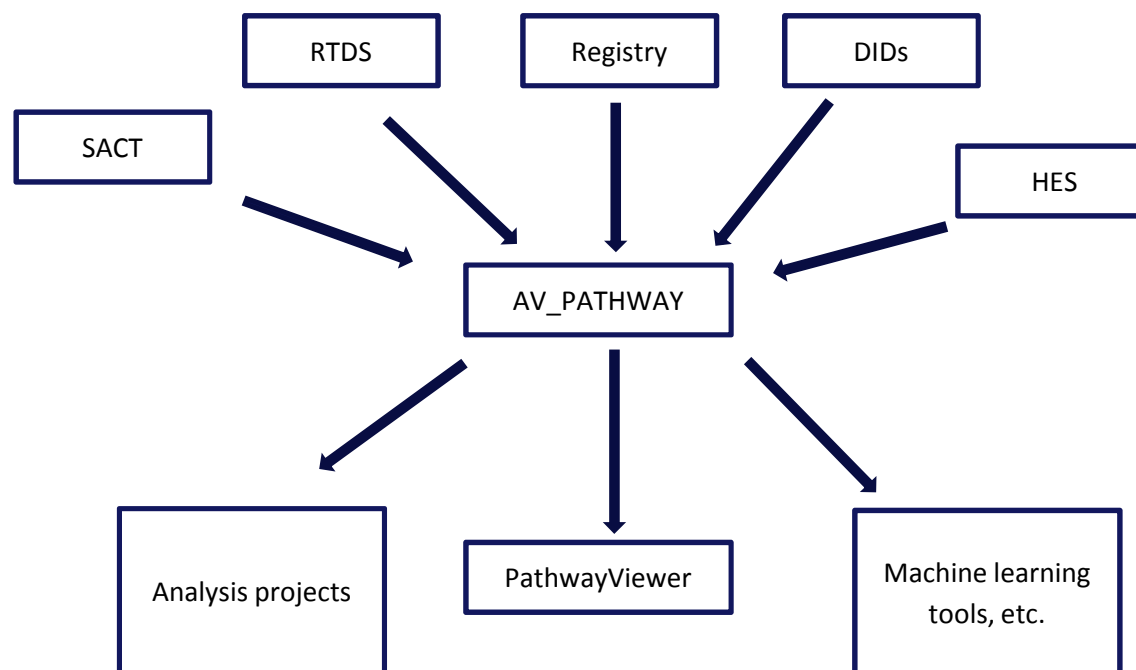
- Innovative methods and research tools to enable robust and unique international comparisons
- The first international comparisons of cancer survival and stage at diagnosis
- Cancer plans in England (and beyond)
- Innovations in diagnostic pathways in England
- Initiatives to improve access to diagnostics in England
- **Projects to improve data completeness and availability in England**



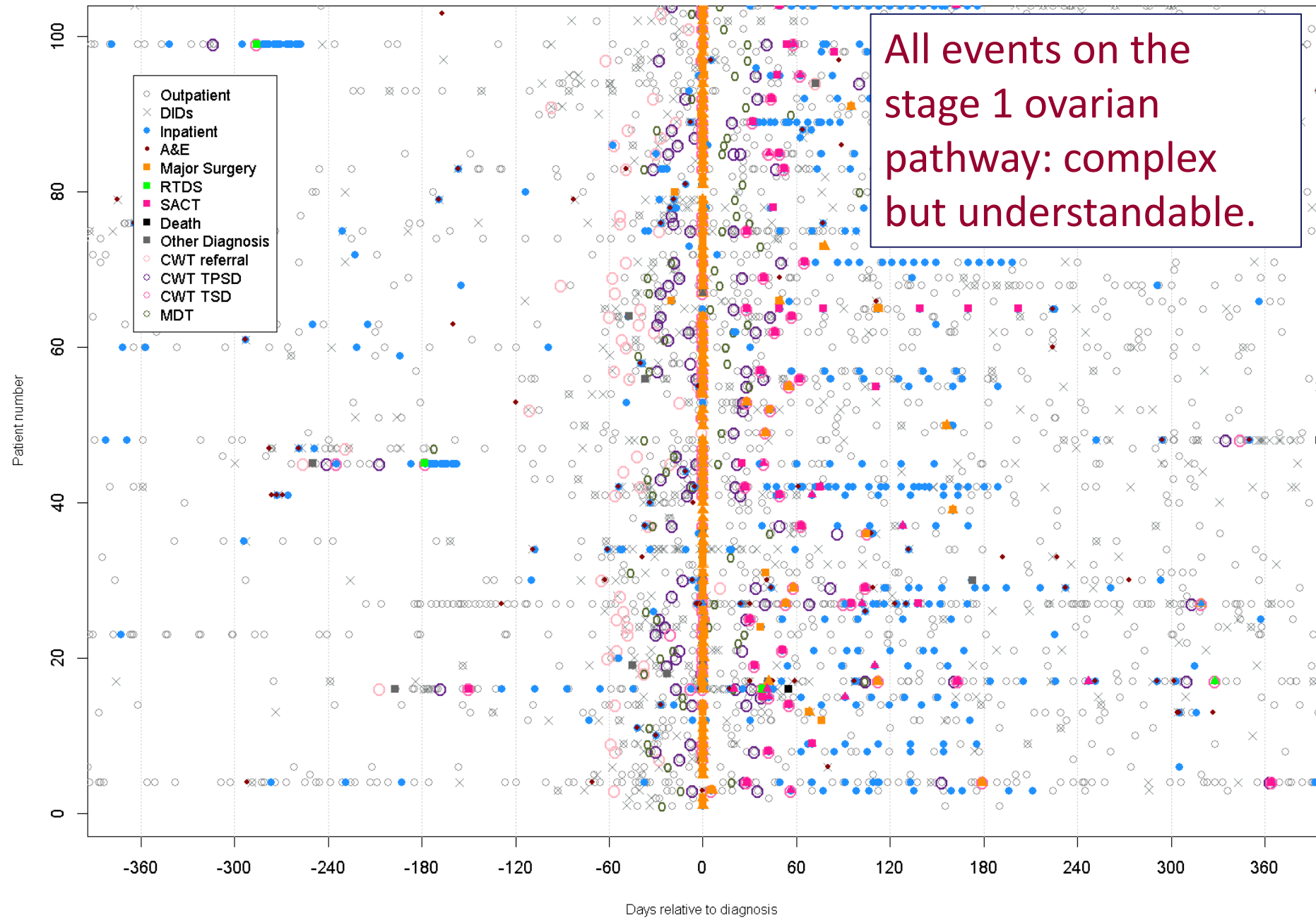
Patient pathway

Representing patient pathways with NCRAS data – current developments

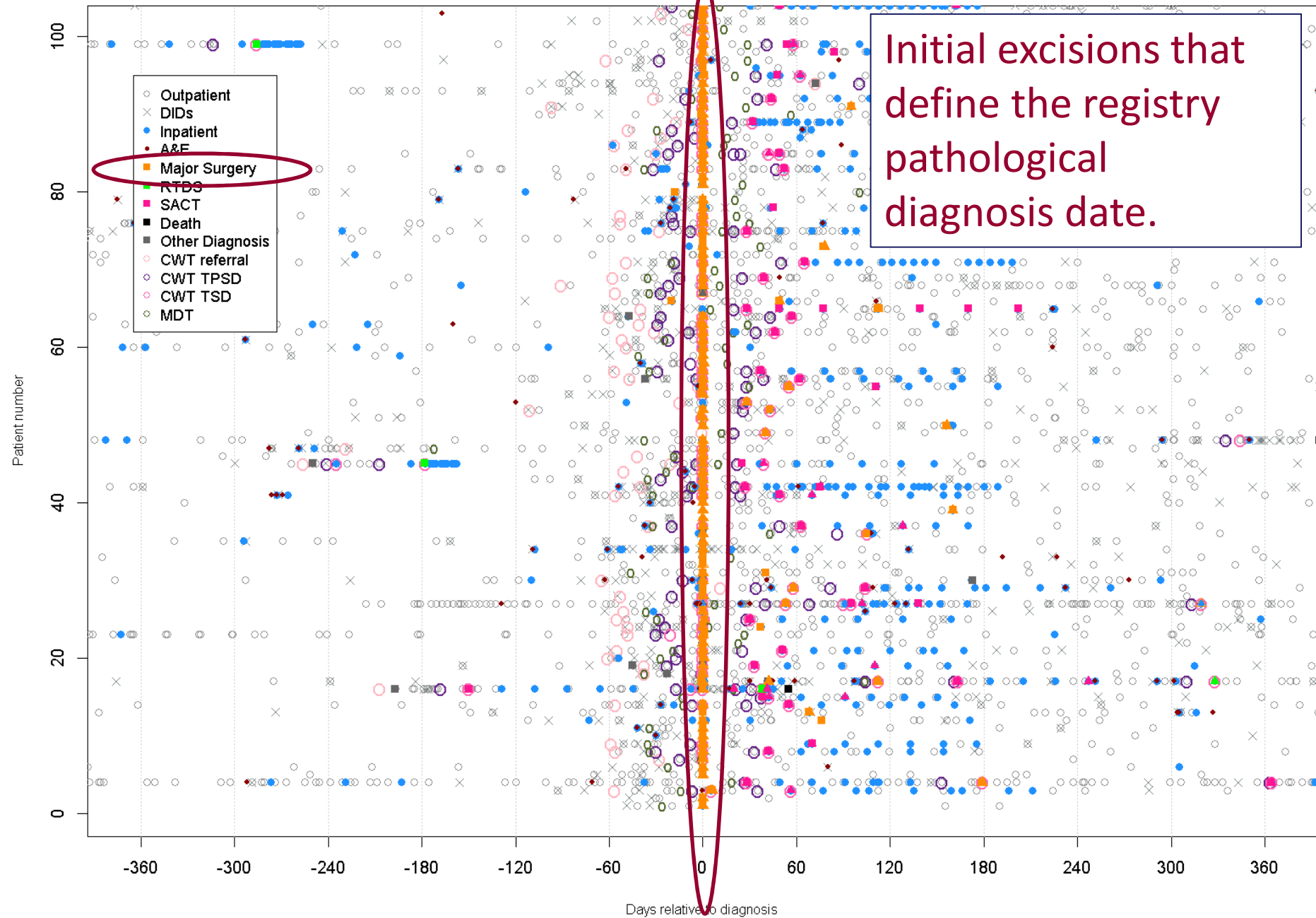
The challenge in interpreting pathway data is it's **volume** and **complexity**.



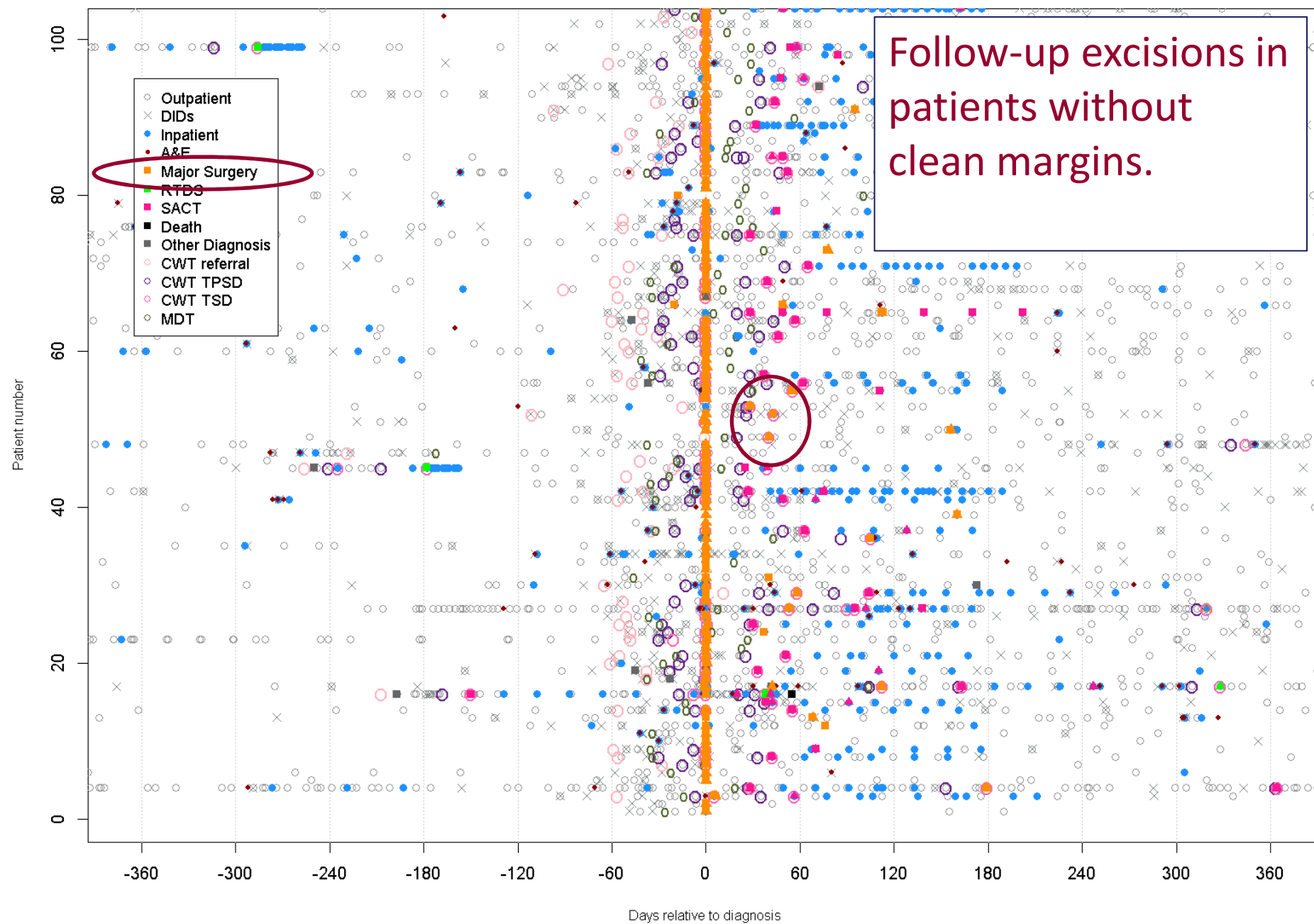
Stage 1 ovarian pathways



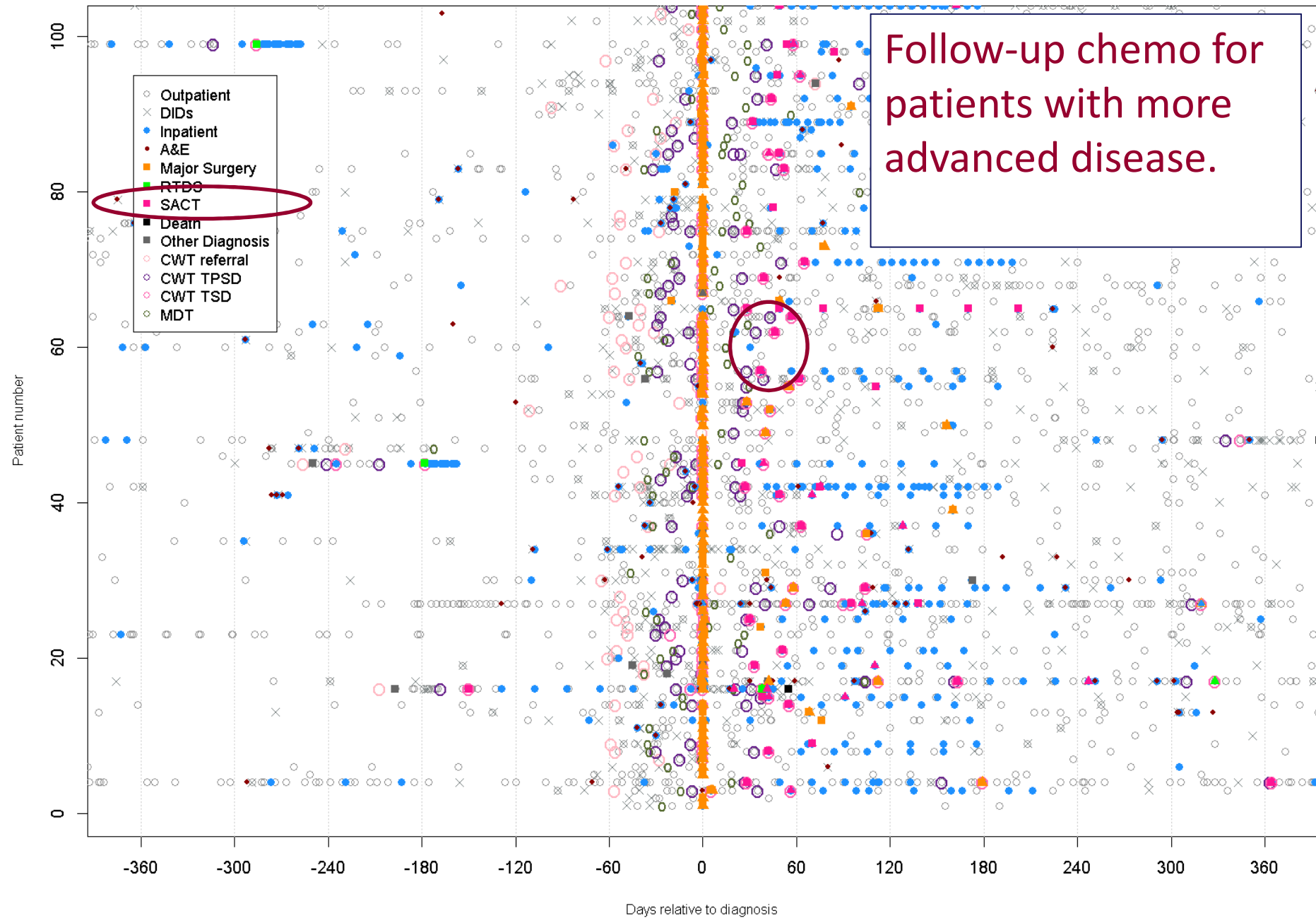
Stage 1 ovarian pathways



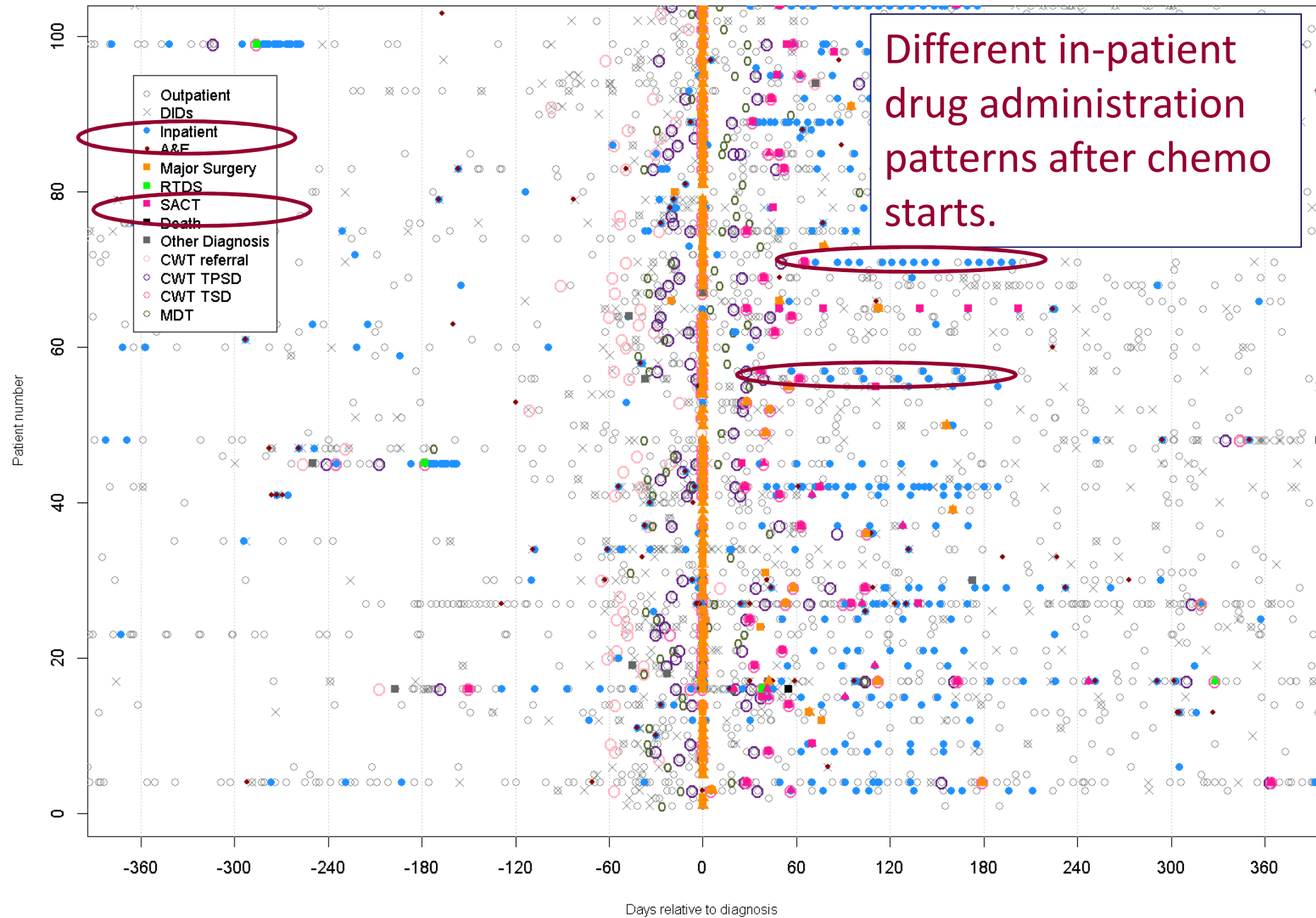
Stage 1 ovarian pathways



Stage 1 ovarian pathways



Stage 1 ovarian pathways





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Peer review

Ensures scientific rigour

International peer-review by experts

Publications **inform policy making**, NICE guidelines, etc.

30-day mortality after systemic anticancer treatment for breast and lung cancer in England: a population-based, observational study



Michael Wallington*, Emma B Saxon*, Martine Bomb, Rebecca Smittenaar, Matthew Wickenden, Sean McPhail, Jem Rashbass, David Chao, John Dewar, Denis Talbot, Michael Peake, Timothy Perren, Charles Wilson, David Dodwell



Summary

“Our insights into the factors affecting risk of 30-day mortality will help treating clinicians and their patients predict the balance of harms and benefits associated with SACT.”

non-small cell lung cancer (NSCLC) in our regression and trust-level analyses. 30-day mortality increased with age for both patients with breast cancer and patients with NSCLC treated with curative intent, and decreased with age for patients receiving palliative SACT (breast curative: odds ratio [OR] 1.085, 99% CI 1.040–1.132; $p < 0.0001$; NSCLC curative: 1.045, 1.013–1.079; $p = 0.00033$; breast palliative: 0.987, 0.977–0.996; $p = 0.00034$; NSCLC palliative: 0.987, 0.976–0.998; $p = 0.0015$). 30-day mortality was also significantly higher for patients receiving their first reported curative or palliative SACT versus those who received SACT previously (breast palliative: OR 2.326 99% CI 1.634–3.312; $p < 0.0001$; NSCLC curative: 3.371, 1.554–7.316; $p < 0.0001$; NSCLC palliative: 2.667, 2.109–3.373; $p < 0.0001$), and for patients with worse general wellbeing (performance status 2–4) versus those who were generally well (breast curative: 6.057, 1.333–27.513; $p = 0.0021$; breast palliative: 6.241, 4.180–9.319; $p < 0.0001$; NSCLC palliative: 3.384, 2.276–5.032; $p < 0.0001$). We identified trusts with mortality rates in excess of the 95% control limits; this included seven for curative breast cancer, four for palliative breast cancer, five for curative NSCLC, and seven for palliative NSCLC.

Interpretation Our findings show that several factors affect the risk of early mortality of breast and lung cancer patients in England and that some groups are at a substantially increased risk of 30-day mortality. The identification of hospitals with significantly higher 30-day mortality rates should promote review of clinical decision making in these hospitals. Furthermore, our results highlight the importance of collecting routine data beyond clinical trials to better understand the factors placing patients at higher risk of 30-day mortality, and ultimately improve clinical decision making. Our insights into the factors affecting risk of 30-day mortality will help treating clinicians and their patients predict the balance of harms and benefits associated with SACT.

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Correspondence to: Prof David Dodwell, Institute of Oncology, St James's Hospital, Leeds LS9 7TF, UK; david.dodwell@nhs.net

The Lancet (2016)

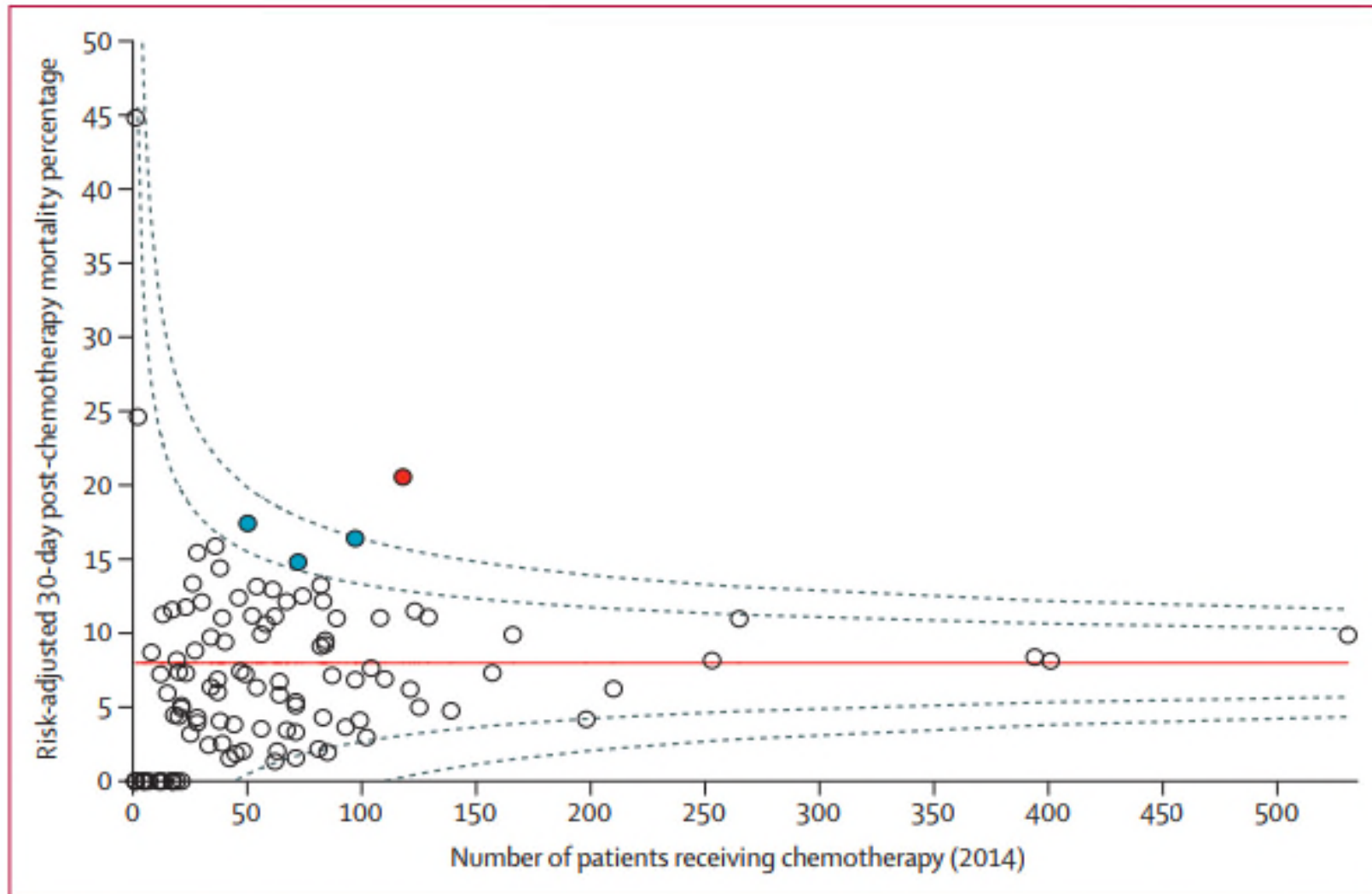


Figure 3: Funnel plot of variation in risk-adjusted 30-day mortality in patients with breast cancer given systemic anticancer therapy with palliative intent by hospital trust

Each circle represents a separate hospital trust; blue and red circles represent outliers beyond the 95% and 99.8% confidence interval boundaries that are represented as grey lines. Red line shows national risk-adjusted 30-day mortality rate.



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Service provision

Routine metrics and bespoke analyses support service provision

Example analyses include:

- Radiotherapy activity across England
- Investigation of repeat diagnostic imaging across hospital trusts
- Inpatient bed use by cancer patients – total and time trends
- Variations in days spent as a hospital inpatient
- Emergency visits in the last year of life

Repeat imaging in London: Trust Pathways for Chest x-rays for lung cancer

First image	Subsequent image											
	NON-LONDON NHS TRUST	BARTS HEALTH NHS TRUST	LONDON NORTH WEST HEALTHCARE NHS TRUST	ROYAL FREE LONDON NHS FOUNDATION TRUST	ROYAL NATIONAL ORTHOPAEDIC HOSPITAL NHS TRUST	NORTH MIDDLESEX UNIVERSITY HOSPITAL NHS TRUST	THE HILLINGDON HOSPITALS NHS FOUNDATION TRUST	KINGSTON HOSPITAL NHS FOUNDATION TRUST	BARKING, HAVERING AND REDBRIDGE UNIVERSITY HOSPITALS NHS TRUST	GUY'S AND ST THOMAS' NHS FOUNDATION TRUST	LEWISHAM AND GREENWICH NHS TRUST	
	NON-LONDON NHS TRUST	175	4	2	6		2	2		7	5	1
	BARTS HEALTH NHS TRUST	1	685		3		1	1		8		
	LONDON NORTH WEST HEALTHCARE NHS TRUST			475	3			4				
	ROYAL FREE LONDON NHS FOUNDATION TRUST	1	2	3	559		10				2	
	ROYAL NATIONAL ORTHOPAEDIC HOSPITAL NHS TRUST					4					1	
	NORTH MIDDLESEX UNIVERSITY HOSPITAL NHS TRUST		2		5		256				1	
	THE HILLINGDON HOSPITALS NHS FOUNDATION TRUST			5				199				
	KINGSTON HOSPITAL NHS FOUNDATION TRUST								214			
	BARKING, HAVERING AND REDBRIDGE UNIVERSITY HOSPITALS NHS TRUST	2	19							375	2	
	GUY'S AND ST THOMAS' NHS FOUNDATION TRUST	1					1				336	3
LEWISHAM AND GREENWICH NHS TRUST										12	185	

Repeat imaging in different trust

Repeat imaging in same trust



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Service provision: CSQMs

Clinical Services Quality Measures are a series of metrics that are intended to **allow for direct comparisons between services** provided by hospitals

“Ofsted for the NHS”

CSQMs for stroke are already available on MyNHS.

The quality and completeness of the data feeds directly into the results.

Data sources include COSD, HES, CPES, SACT, RTDS etc.

The first cancer CSQMs will cover breast, colorectal and lung cancers.

Metrics are chosen in consultation with clinicians and patient groups.










All groups chose to have a metric on that reported on data quality and completeness.

What will they look like?



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Service provision: CSQMs

Sort by distance	Overall Stroke Care Rating (Adjusted)	Number of patients admitted in one quarter	Change in performance from previous quarter	Team Key Indicator Level	Proportion of stroke cases included in SSNAP (Case ascertainment)	Completeness and timeliness of data (Audit compliance)	Name of stroke service
 							
<u>Salford Royal</u> Salford Royal, Stott Lane, Salford, M6 8HD Tel: 0161 789 7373 3.2 miles away <input type="checkbox"/> Add to shortlist	A	584	Improvement	A	A	A	Salford Royal Hospital
<u>Stepping Hill Hospital</u> Poplar Grove, Hazel Grove, Stockport, Cheshire, SK2 7JE Tel: 0161 483 1010 8.1 miles away <input type="checkbox"/> Add to shortlist	B	333	Decline	A	A	B	Stepping Hill Hospital
<u>Fairfield General Hospital</u> Fairfield General Hospital, Rochdale Old Road, Bury, Lancashire, BL9 7TD Tel: 0161 764 6081 8.4 miles away <input type="checkbox"/> Add to shortlist	A	322	No change	A	A	A	Fairfield General Hospital



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This work uses data provided by patients and collected by the NHS as part of their care and support.

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